Department of
Energy and Forestry

ENERGY PROFILE

PRINCE EDWARD ISLAND

1965 TO 1989

91-02823/

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ENERGY PROFILE

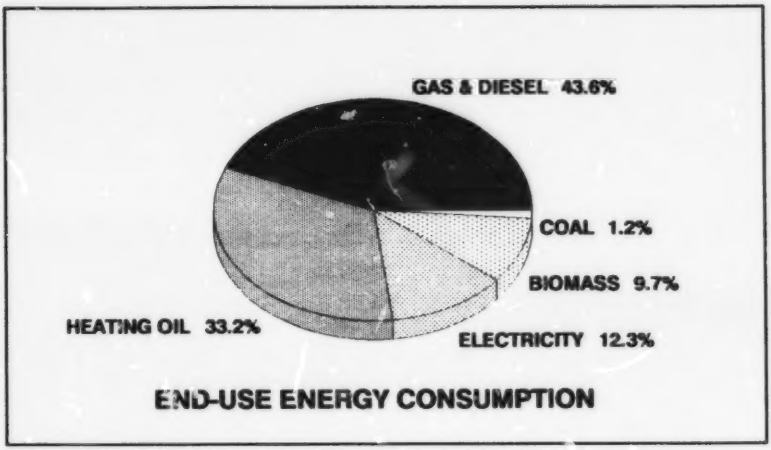
PRINCE EDWARD ISLAND
1965 TO 1989

INTRODUCTION

This booklet has a twofold purpose. First, it provides a wide range of statistics on Prince Edward Island energy use from 1965 through 1989. Second, it attempts to clarify P.E.I.'s present energy situation by relating it to recent history. In looking back over that 25 year period, we can identify some of the events and trends which helped create our present situation. This allows us to better understand the present and, perhaps, to move more intelligently into the future.

Human well-being depends on adequate supplies of energy. In simpler, less comfortable times, people required little more than food energy and heat. We still need those forms of energy, but today we also rely on energy-based transportation and manufacturing systems, and an array of electrical and electronic marvels that require instantly available electrical energy. Moreover, Prince Edward Island's top three industries, agriculture, tourism, and fishing, all require substantial, reliable energy inputs. Our current energy use is illustrated in the following figure:

Many of today's energy-consuming systems require petroleum-based fuels: gasoline, diesel fuel, heating oil, kerosene, and propane. As illustrated in the chart which follows, these fuels account for more than three-fourths of our total energy consumption. All the petroleum-based fuels consumed here must be imported. Electricity is an import too: in 1988, all electricity consumed on P.E.I. was either imported directly via submarine cable, or was generated on-Island by burning imported fuel.

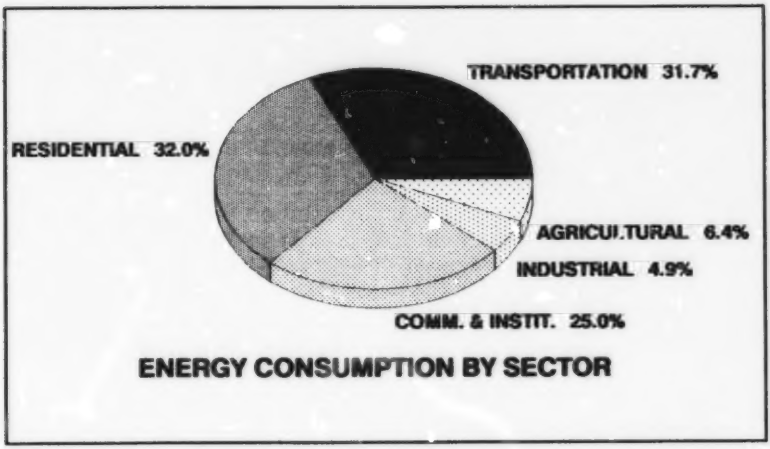


The need to import a large percentage of the energy we use has a negative impact on the P.E.I. economy. Keeping our vehicles running and our homes and offices warm and lighted requires a continuous outward flow of dollars. This creates employment elsewhere and drains money out of the Island economy. P.E.I. currently imports over $100 million worth of energy every year. That's over $770 per Islander, or $2300 per Island household per year.

Not all of our energy is imported. In 1989, slightly more than 10% of P.E.I.'s energy was locally-produced biomass energy, and most of that biomass was wood. Cordwood has long been used for residential heating here, and wood chips recently have become

established as an excellent fuel for larger installations. Wood chips appear to be a promising alternative to fossil fuels, particularly for institutional heating, multiple-building district heating, and electrical generation.

In the narrative that follows, we will see how energy use has changed over time, and the impacts of government policy and world events on energy consumption patterns. The power of individuals also becomes clear. A trend toward increased energy consumption is the result of many individuals deciding to use more energy. A trend toward energy conservation occurs when many individuals decide to use less. The total consumption of one fuel declines and another increases when individuals decide to switch fuels. We have the power to make such choices. A trend toward increased energy use in the 1960s and 1970s was reversed in the early 1980s, a time of conscious energy conservation. Today, energy consumption is once again rising. Hopefully, this booklet's information about our past and present energy choices will help us make intelligent future choices; choices that will benefit ourselves, our grandchildren, and the Island community.



ENERGY CONSUMPTION BY SECTOR

ENERGY CONSUMPTION

We begin by looking at total P.E.I. energy consumption during the 1965-1989 period. Figure 1 on the opposite page breaks that total consumption down by fuel type.

Gasoline and Diesel are used primarily for road transportation, and secondarily on farms and in the fishery. These fuels are also used to some extent by other marine interests and for electrical generation. Except for a modest decrease during the early and mid 1980s, total consumption has remained relatively constant since 1965, despite an 18% increase in population and a 140% increase in the number of registered vehicles. This means that both consumption per capita and consumption per vehicle have declined. Increased vehicle efficiency is at least part of the explanation.

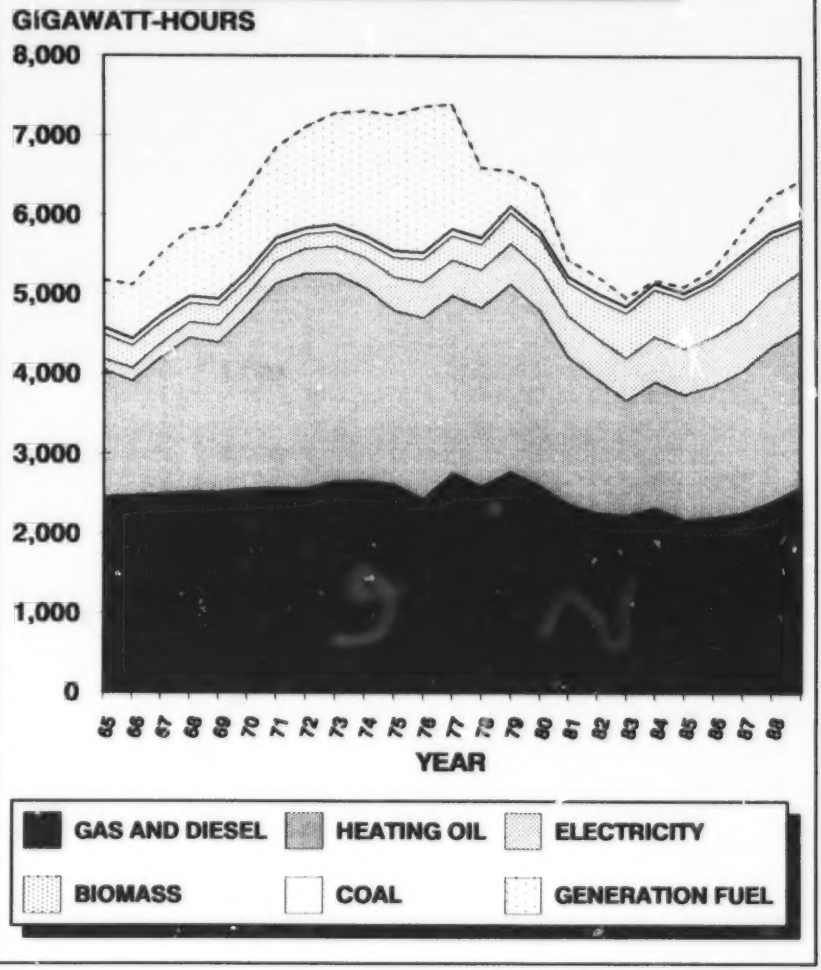
Heating oil consumption increased during the 1970s but declined in the early 1980s as world oil prices increased. Islanders focused on energy conservation, and increased their use of wood fuel. Total consumption began to rise again in 1986 as world oil prices fell. Per capita use dropped below the 1965 level from 1982 through 1987, but again rose above it in 1988.

Both total electrical use and electrical use per capita have increased gradually through most of the period. An exception is the period 1979 through 1982 when total use remained constant, and use per capita declined slightly. Rapidly rising electricity costs which were tied to the price of oil contributed to this situation.

The consumption of biomass for energy (primarily in the form of roundwood) began to rise in the mid-'70s. Since 1983, municipal waste and wood chips have increasingly contributed to the biomass total.

Coal is a minor source of energy which is used primarily at CFB Summerside.

FIGURE 1
ENERGY CONSUMPTION BY FUEL TYPE
PRINCE EDWARD ISLAND



Generation Fuel is oil, largely heavy oil, used for generating electricity. Increased consumption during the '60s and early '70s paralleled the increase in overall electrical consumption during that period. The installation of the submarine cable to New Brunswick in 1977, and the resulting switch from expensive locally-generated electricity to cheaper imported electricity resulted in a sharp decrease in the consumption of this fuel.

The upper solid line of Figure 1 represents the total **end-use** consumption of energy. The upper dashed line includes the **generation fuel** used to produce **electricity** at on-Island plants. It is included to more clearly illustrate **overall on-Island** energy consumption.

ENERGY CONSUMPTION BY SECTOR OF USE

Dividing energy consumption into sector of use is useful for identifying areas of importance. Figure 2 provides an example.

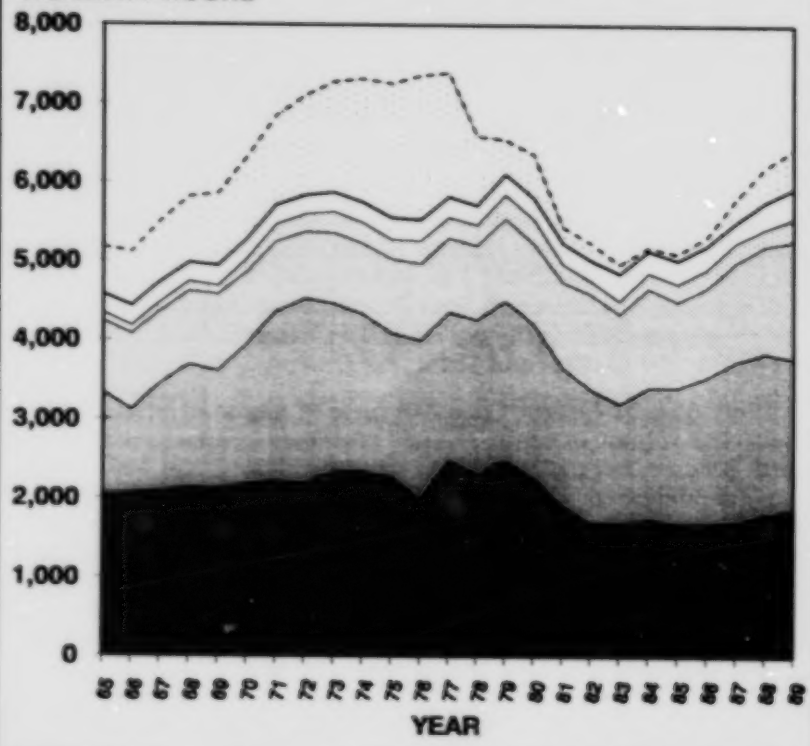
Energy use in the transportation sector remained relatively constant from 1965 through 1988. The number of registered vehicles increased by a factor of 2.4 during that period, but this increase was balanced against improvements in engine efficiency, and possibly changes in driving practices.

Residential energy use grew steadily from the mid-'60s to the early 1980s, at which time high energy prices and energy conservation awareness brought about a reduction. During the early '80s, government assistance through the Canadian Home Insulation Program (CHIP) and the Canadian Oil Substitution Program (COSP) contributed to over $20 million being spent on conservation measures such as home insulation and air sealing, and almost $14 million on conversions to wood fuel. The rise in both total and per capita residential energy use in the late 1980s is presumably the result of lower electricity and oil prices, and reduced concern about energy conservation.

Energy use in the commercial and institutional sector has remained relatively constant since 1970. Energy use in the industrial sector rose during the decade from 1965 to 1975, and then leveled off except for a dip during the early 1980s. Energy use in agriculture has remained relatively constant.

Again, **generation fuel** has been included for completeness. The same comments apply as in the preceding graph.

FIGURE 2
ENERGY CONSUMPTION BY SECTOR OF USE
PRINCE EDWARD ISLAND



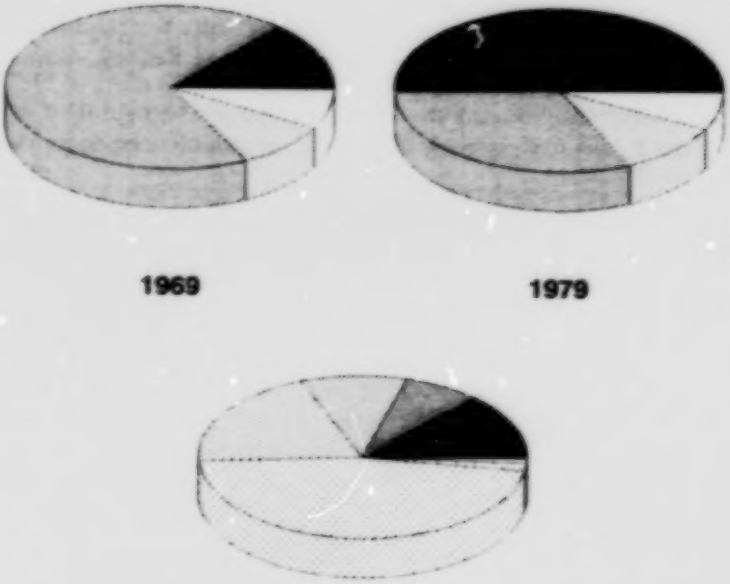
SOURCES OF CRUDE OIL - ATLANTIC CANADA REFINERIES

The oil consumed in P.E.I. comes primarily from refineries in Nova Scotia and New Brunswick. Three refineries were in operation throughout the 1968 to 1989 period: Irving Oil in St. John, New Brunswick; Imperial Oil Ltd. in Dartmouth, Nova Scotia; and Texaco Canada Inc. in Halifax, Nova Scotia. In addition, the Ultramar plant at Point Tupper, Nova Scotia operated until 1980. Almost all of our oil currently comes from the Irving and Imperial refineries, with a limited amount also coming from Quebec.

Because it has been less costly to transport crude oil by ship than by rail, most oil refined in Atlantic Canada has come from abroad. Shifts in price and availability, as well as political instability in the Middle East, have caused the mix of sources to change over time. The pie graphs indicate the nature of that mix in three representative years: 1969, 1979, and 1989.

In 1969, 69% of eastern Canadian oil was imported from Venezuela. The volume of Venezuelan oil remained relatively constant until 1980, but the percentages changed during the 1970s as demand increased and refinery capacity was expanded. That increase was met primarily by oil from Saudi Arabia and Iran, which by 1979 made up 50% and 10%, respectively, of the total. In the 1980s there was a shift away from Middle Eastern sources, many of which are subject to political instability, and by 1989, 46% was coming from the North Sea, *i.e.* Norway and the U.K.

FIGURE 3
SOURCES OF CRUDE OIL
ATLANTIC CANADA REFINERIES



* RECEIPTS, IF ANY, INCLUDED UNDER OTHER PRIOR TO 1986.

SALES OF REFINED PETROLEUM PRODUCTS

Figure 4 is similar to the **Energy Consumption by Fuel Type** graph of Figure 1, but gives a more detailed breakdown of consumption by specific petroleum product.

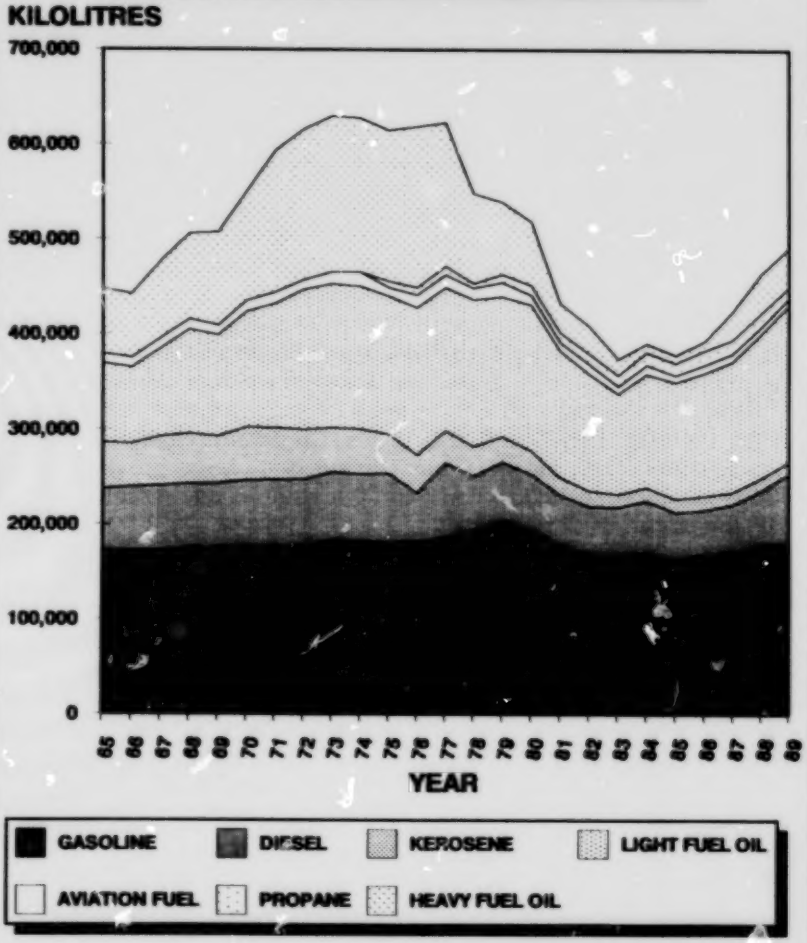
The Figure 1 comments relating to Gasoline and Diesel apply here too. As mentioned, these fuels are used primarily for road transportation, with secondary uses in farming, the fishery, marine transportation, and electrical generation. Total sales of these fuels were fairly constant during the 1965-1989 period (except for a dip in the early and mid 1980s), but sales per vehicle and sales per capita declined.

Kerosene and light (#2) fuel oil are used primarily to heat buildings and domestic hot water, with light fuel oil having gradually displaced kerosene for most purposes. Propane is another heating fuel which has found increased use since its introduction in the early '70s. Used primarily for stoves, space heating, barbecues, and a few autos, sales are still relatively small, but growing. Heavy fuel oil (also know as "#6" or "Bunker C" oil) is used primarily for electrical generation at the Charlottetown generating station. The large decline in sales in the late 1970s resulted from reduced on-Island generation after the submarine cable to New Brunswick was installed. Heavy fuel oil is also used for industrial and space heat at a few sites such as Cavendish Farms and the MacMillan Building.

Aviation fuel includes both aviation-grade gasoline and jet fuel. Sales declined somewhat in the 1980s.

Some non-energy-related petroleum products are also sold on the Island: asphalt primarily, plus lubricants. Non-energy sales do not appear on the graph but do appear in Table 4 at the back of this booklet.

FIGURE 4
SALES OF REFINED PETROLEUM PRODUCTS
PRINCE EDWARD ISLAND



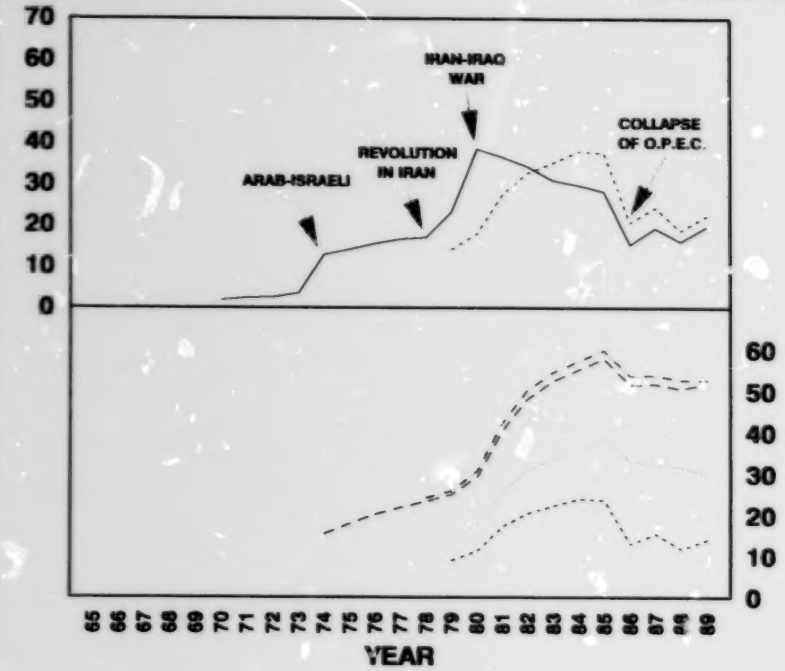
PETROLEUM PRICES

The price of West Texas Intermediate Crude acts as one of the many benchmarks for monitoring oil prices. During the 1970s and 1980s, world crude oil prices changed dramatically in response to several key events. Both the Arab-Israeli war and the revolution in Iran precipitated price rises. The Iran/Iraq war then triggered a slow price decline as dissension increased within the Organization of Petroleum Exporting Countries (O.P.E.C.). The collapse of the O.P.E.C. cartel was followed by a steep price decline in 1986.

As Figure 5 indicates, the price of Canadian crude, represented by Canadian Par Crude, did not follow the world price. Canadian prices were subsidized by the Federal government until the subsidy was phased out under the National Energy Program in the early 1980s. In 1980, for example, West Texas Intermediate crude was priced at $45 CDN per barrel while Edmonton Canadian Par crude was priced at $18 CDN. The subsidies which created this artificially low Canadian crude price were gradually removed during the early 1980s so that by 1984, Canadian refineries were paying world prices for all crude. During this period the price of refined products tended to track the Canadian crude price rather than the world crude price.

Notice the large spread between the price of fuel oil and gasoline. Most of this spread results from taxes on motor fuels. In fact, retail gasoline prices have not fallen as much as the prices of fuel oil because taxes have been increased.

FIGURE 5
PETROLEUM PRICES
PRINCE EDWARD ISLAND

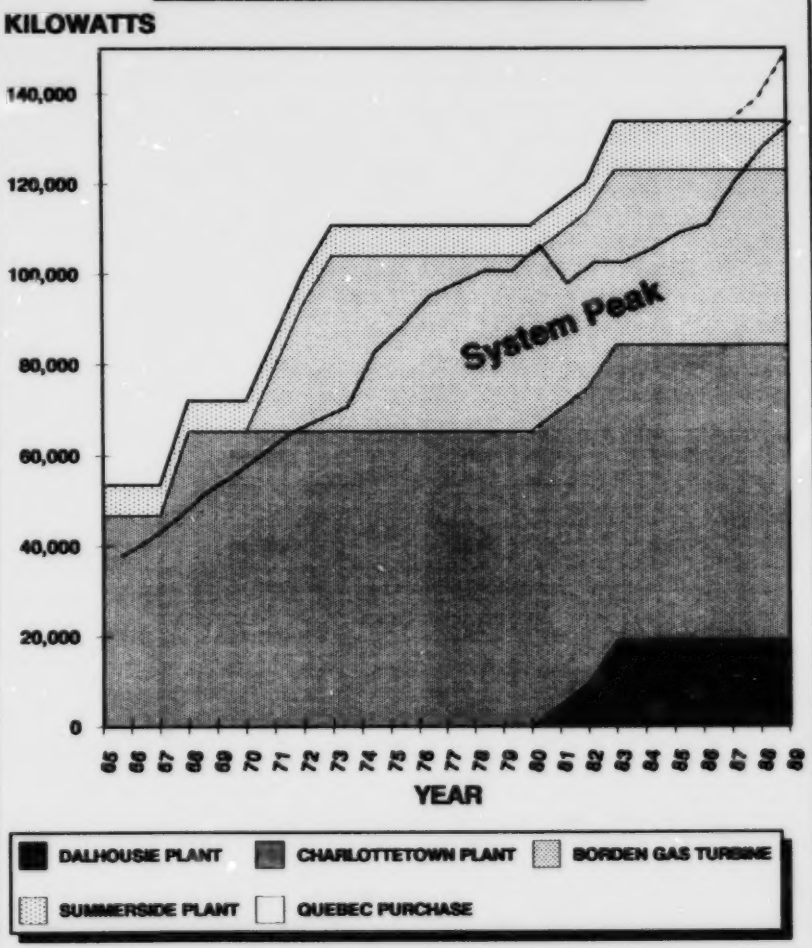


INSTALLED GENERATING CAPACITY

Except for a short period during the early 1980s, Islanders have gradually increased their demand for electricity during the past 24 years. At the end of 1989 that demand was four times what it was at the end of 1965. To meet this growing demand, additional generating capacity was acquired over the years. In 1968 the capacity of the Charlottetown plant was increased by 18.6 megawatts (MW). In 1970-73, 38.7 MW of gas turbine capacity was added at Borden. Then, in 1981, Maritime Electric Co. purchased a 10% equity interest in the Dalhousie, N.B. coal-fired plant, a step which added 19 MW of capacity. And in 1983, the output of the Summerside plant was increased by 4.1 MW.

The requirement to have 15% reserve capacity meant that another increase was needed at the end of 1988. This need was met through a contractual arrangement with Hydro Quebec and New Brunswick Power. Quebec has agreed to supply up to 50 megawatts of power, and New Brunswick has agreed to transmit it over their transmission system to the New Brunswick end of the N.B./P.E.I. submarine cable. This agreement should provide the Island with sufficient capacity until 1994. The Province and Maritime Electric Co. Ltd. are currently evaluating options for new capacity after 1994.

FIGURE 6
INSTALLED GENERATING CAPACITY
PRINCE EDWARD ISLAND



SOURCES OF ELECTRICITY

Figure 7 illustrates the four major events which precipitated changes in electrical generation and purchasing patterns in recent years. Before 1977 all electricity used on P.E.I. was generated on the Island. That year, however, the submarine cable to New Brunswick went into operation and Maritime Electric Co. began buying "Economy Power" from New Brunswick. "Economy Power" is power generated using the excess capacity of New Brunswick plants, but subject to being cut off if New Brunswick needs the capacity for its own customers.

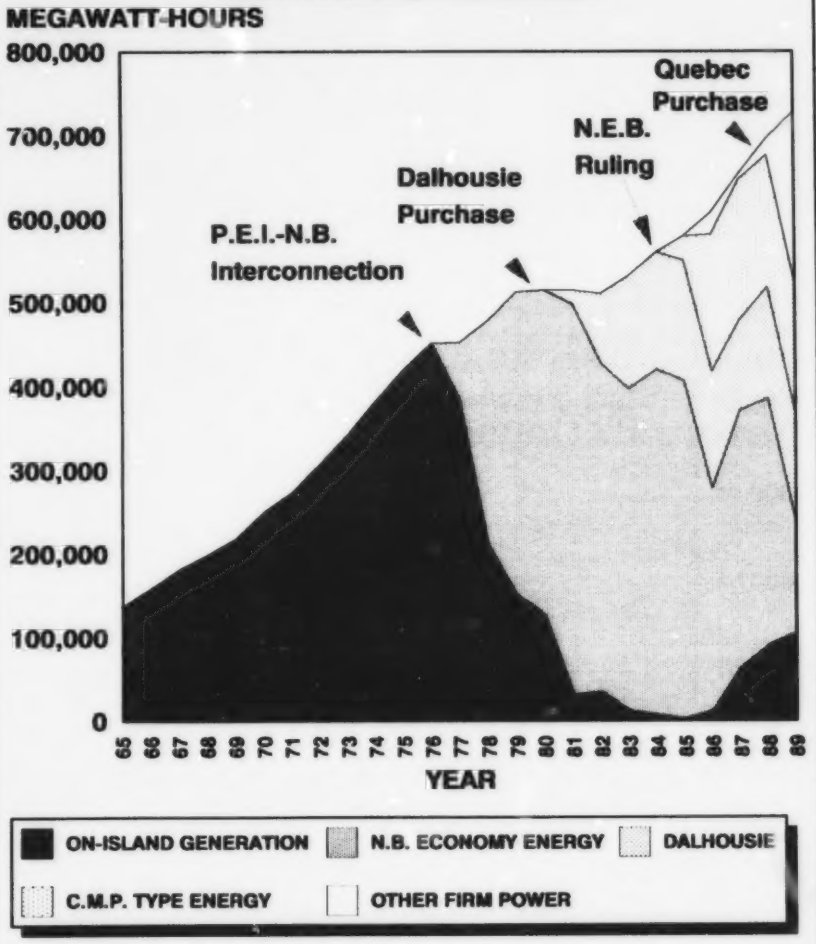
The second event, which occurred in 1981, was the purchase by Maritime Electric of part interest in the Dalhousie, N.B. coal-fired plant. This gave our utility extra "firm" power that could not be cut off as "economy" power could.

The third event was a 1985 decision by the National Energy Board to allow P.E.I. to purchase electricity from New Brunswick Power under the same basic conditions that applied when New Brunswick Power exported electricity to Central Maine Power (C.M.P.) in the U.S. In the graph legend this is called "C.M.P.-type Energy."

A fourth event was the November 1988 agreement to purchase power from Hydro Quebec through New Brunswick Power. This will affect the supply mix in the future.

Dalhousie power is the least expensive, but is limited by plant capacity. Economy and C.M.P. power are generally the next least costly, but availability depends on the New Brunswick's own demand for electricity. On-Island generation is ordinarily the most expensive, and is used only when other sources are unavailable. Capacity and associated energy is purchased from Quebec to close the gap between Island-owned capacity and the electrical system peak demand.

FIGURE 7
SOURCES OF ELECTRICITY
PRINCE EDWARD ISLAND



SALES OF ELECTRICITY

During the period from 1965 through 1976, the average residential customer increased electrical energy consumption by a factor of 2.6. "Other" customers (industrial, commercial, and institutional) increased consumption by a factor of 1.7. Consumption leveled off in the late 1970s when prices started to rise rapidly but began to rise again in the mid-1980s when prices stabilized and then declined.

The electricity price structure is broken down in more detail in the graph of Figure 9, and price trends are discussed there.

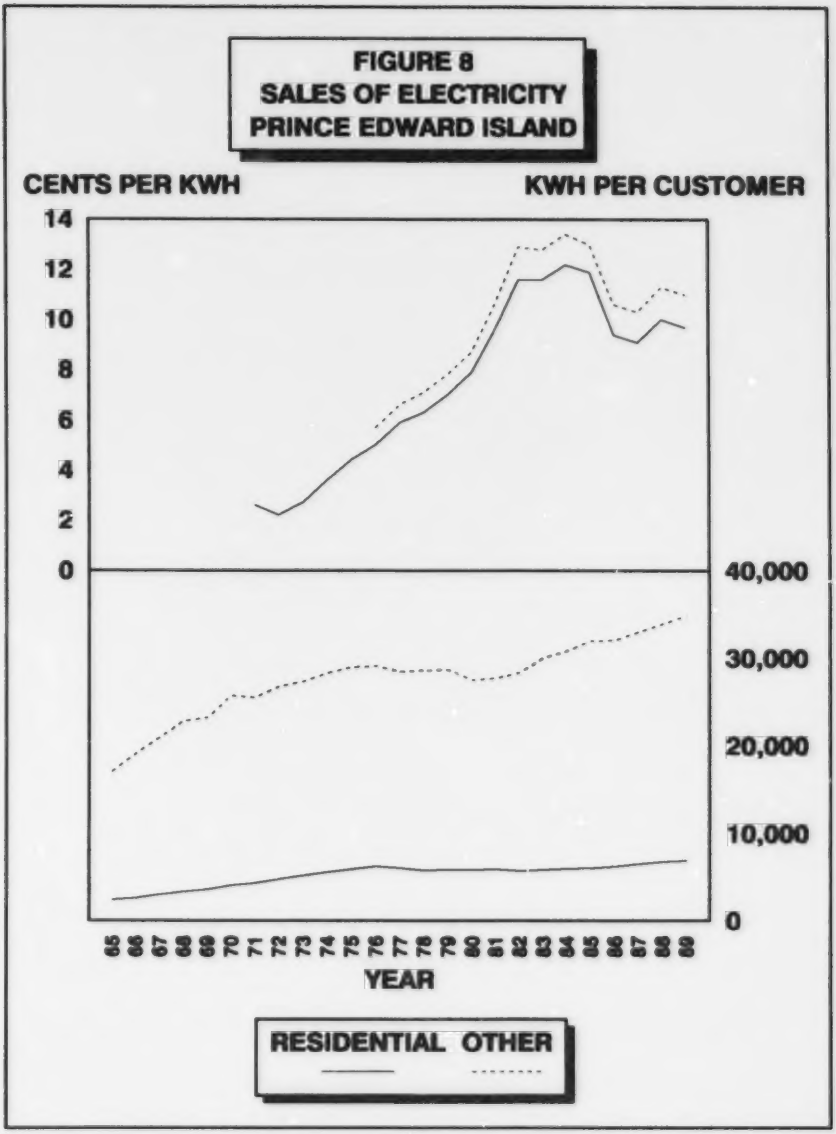


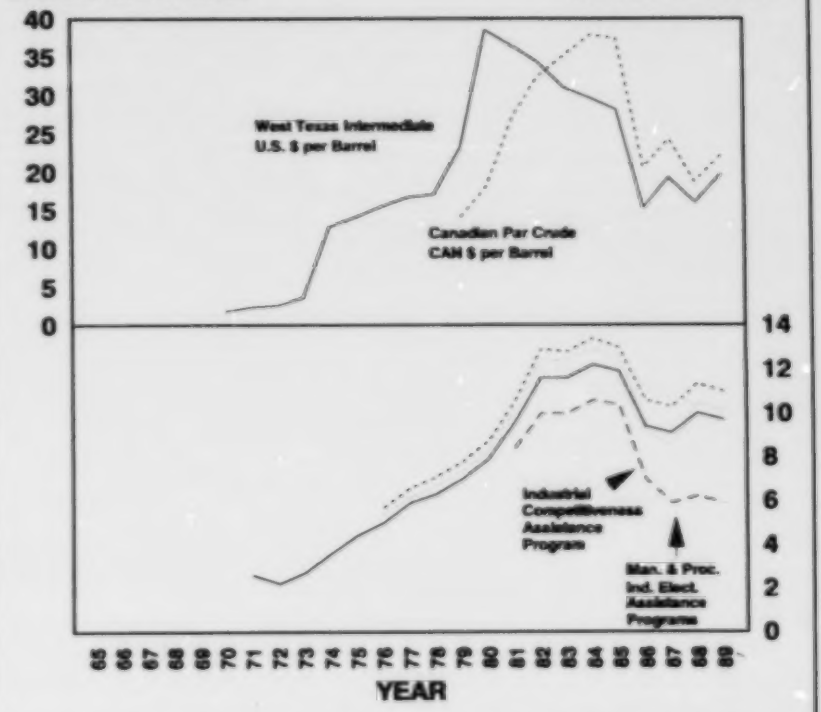
FIGURE 8
SALES OF ELECTRICITY
PRINCE EDWARD ISLAND
CENTS PER KWH
KWH PER CUSTOMER
14
12
10
8
6
4
2
0
40,000
30,000
20,000
10,000
0
65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89
YEAR
RESIDENTIAL
OTHER

ELECTRICITY PRICES

Figure 9 illustrates the electricity costs for four customer groups. The composite **Other group in Figure 8 is illustrated by three rate categories. The Industrial** rate applies to production operations having high electrical consumption. The **Large General Service** rate applies to high-consumption non-production operations. The **Small General Service** rate applies to most other commercial and institutional users.

Electricity prices rose during the 1972-1983 period, stabilized in 1984-85, and declined after that. The decline can be attributed to the decline in oil prices and several price subsidy programs sponsored by the Provincial government. The Industrial Competitiveness Assistance Program (ICAP) was in effect from October 1, 1985 to September 30, 1987, and provided a rate reduction averaging 17% to 4200 customers in the industrial, manufacturing, and processing sectors. A residential rebate program in effect from October 1, 1985 to July 1, 1986 provided a similar 17% reduction in residential electric bills. The ICAP was replaced by the more limited Manufacturing and Processing Industrial Electricity Assistance Program (MPIEAP) which from October 1, 1987 to the present has provided 20% rebates to up to 100 firms who have large energy consumption and manufacture for export.

FIGURE 9
ELECTRICITY PRICES
PRINCE EDWARD ISLAND



SOURCES OF BIOMASS ENERGY

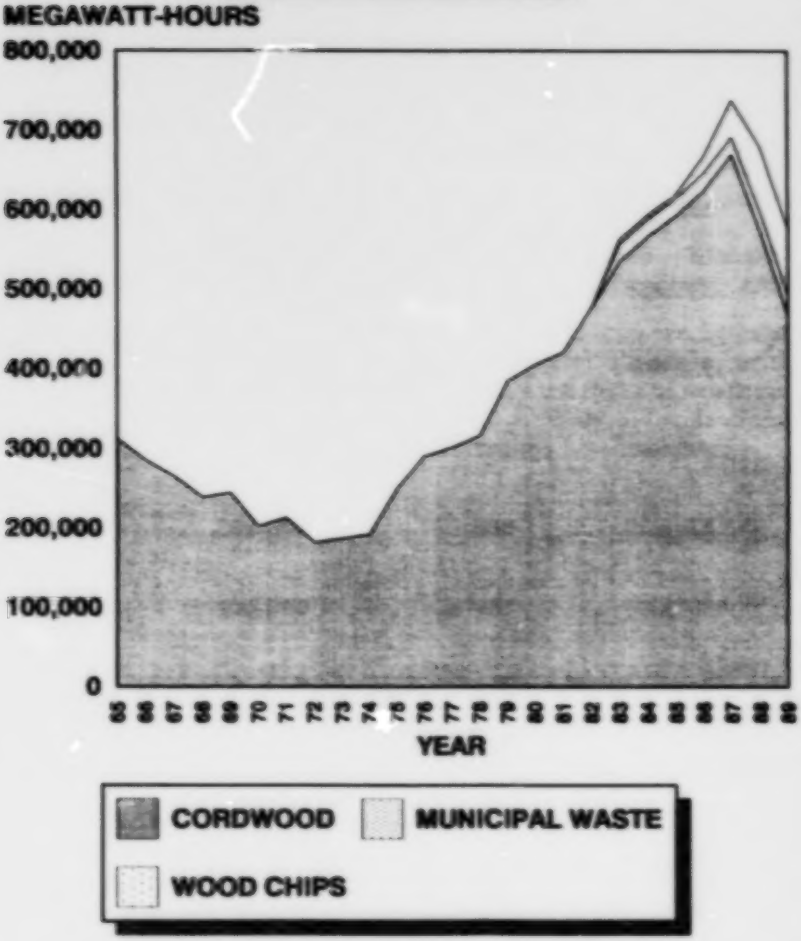
Cordwood (both hardwood and softwood) has always been a major residential heating fuel on Prince Edward Island. Cordwood use declined during the late '60s and early '70s, a period of low oil prices, but began to increase again when oil prices rose in the mid-1970s. In the late 1980's, the Island's consumption of cordwood was more than twice what it was in 1965.

Municipal waste from Charlottetown area communities became a biomass fuel in 1983 when the Parkdale Energy-From-Waste plant began operation. In consuming combustible waste, the plant produces steam which heats and cools the Queen Elizabeth Hospital complex. Waste consumption in the first year was 24,000 tonnes. By 1989 the plant was operating at its capacity of approximately 32,000 tonnes. Approximately 35 million kilograms of steam are generated annually, and three million litres of oil are displaced.

Wood chips made from poor quality trees and from tree-harvesting residues like tops and branches are a fuel that is gaining favor among institutional and commercial users. The Island has an immense amount of such forest biomass available today, and with reasonable forest management there will continue to be a comparable amount in the future.

In 1989 there were 17 major facilities burning wood chips, including most of the larger hospitals and schools. Several of these facilities also supply heat to other buildings via district heating systems. District heating is a technique where heat from one large centrally-located boiler is distributed through a network of buried insulated pipes to a number of subscriber buildings. District heating systems have cost and maintenance advantages over conventional systems, and the scale of these facilities allows wood fuel to be burned in an efficient, low-pollution manner.

FIGURE 10
SOURCES OF BIOMASS
PRINCE EDWARD ISLAND



ENERGY CONSUMPTION PER CAPITA

Energy consumption per capita is a useful method of measuring trends in individual consumption of energy.

Petroleum product consumption per capita remained relatively constant from 1965 to 1979. It went down during the period of high oil prices in the early 1980s, but began to rise once again as prices eased in the late 1980s. Petroleum product consumption in 1989 was still only 92% of the 1965 level.

The rate of increase in electrical use per capita has been relatively constant except for a brief period during the early 1980s when consumption was constant. In 1989 it was 4.4 times what it was in 1965.

Biomass use per capita decreased during the era of cheap oil, but began a steady rise in the mid-1970s when world oil prices increased. In 1988 it was twice the 1965 level; however, consumption declined in 1989.

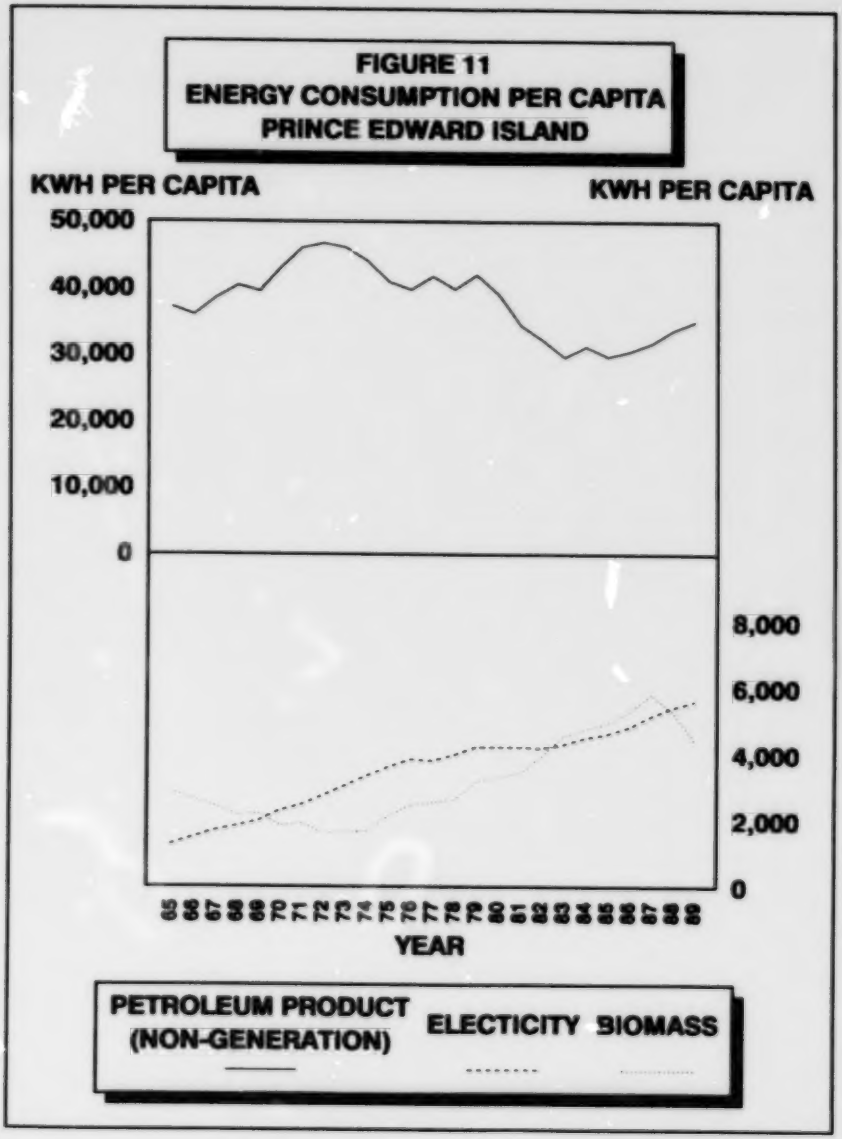
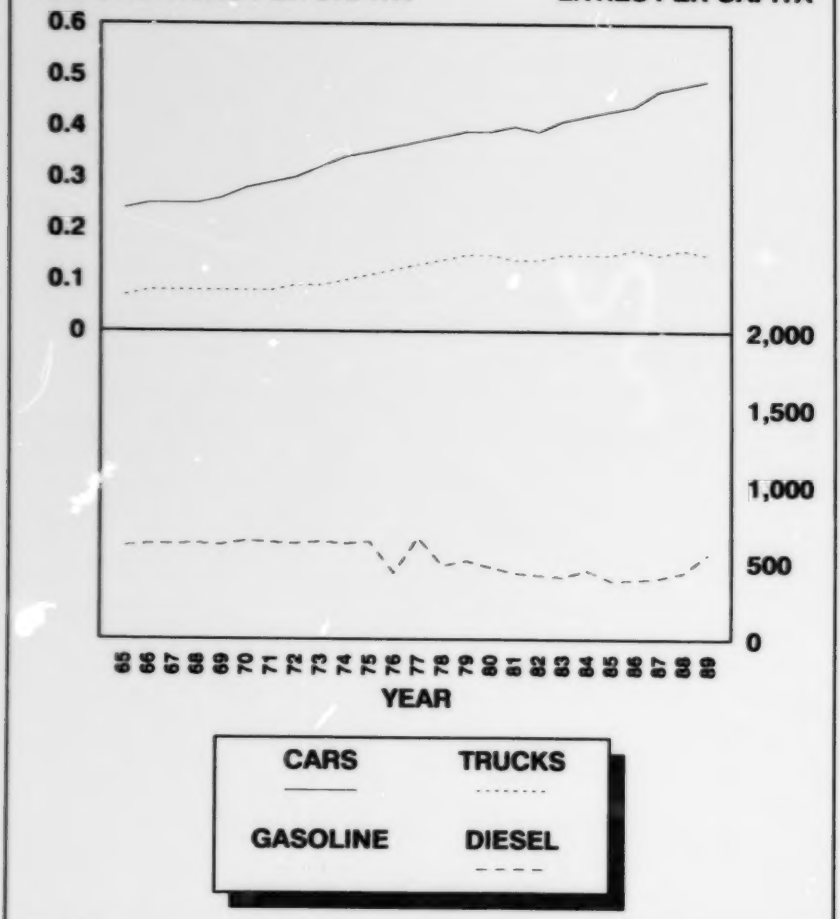


FIGURE 11
ENERGY CONSUMPTION PER CAPITA
PRINCE EDWARD ISLAND
KWH PER CAPITA
KWH PER CAPITA
50,000
40,000
30,000
20,000
10,000
0
8,000
6,000
4,000
2,000
0
YEAR
PETROLEUM PRODUCT (NON-GENERATION)
ELECTICITY
BIOMASS

MOTOR VEHICLES AND TRANSPORTATION FUEL

From 1965 to 1989 the number of car registrations per capita doubled, from approximately one car for every four persons, to one car for every two. During the same period, the number of truck registrations per capita increased by a factor of 214%. As previously mentioned, despite the increase in vehicles per capita, fuel per capita has declined. Gasoline use per capita in 1989 was only 89% of what it was in 1965; diesel use per capita was only 91%. Again, vehicle efficiency improvements can be credited for a good deal of this. Changed driving patterns presumably account for the rest.

FIGURE 12
MOTOR VEHICLES AND TRANSPORTATION FUEL
PRINCE EDWARD ISLAND



CONCLUSION

The purpose of this booklet was to provide a recent history of energy usage on P.E.I. Hopefully, it will help readers better appreciate the present energy situation in the Province and make decisions about the future.

Energy choices, like other choices, involve costs and benefits. In the past, personal energy choices were often made by simply weighing cash outlay against convenience and comfort. The complete equation, however, is much more complex. It includes economic and environmental costs--such as the negative impact of dollars flowing out of the Island economy, the long-term cost of increased atmospheric CO_2, the cost of petroleum spills and leaking storage tanks, and the cost of acid rain. It also includes societal benefits ranging from the boost that fast flexible road transportation gives the economy, to the job creation, forest renewal and keep-the-money-here advantages of options such as biomass energy.

Because energy-use trends really are the result of many specific decisions, each decision is important. Some energy decisions are made by government and business; many others are made by individual Islanders. This booklet is intended, in part, to help Islanders to make their energy decisions **informed** decisions.

TABLES OF DATA

TABLE 1
ENERGY CONSUMPTION BY FUEL TYPE
PRINCE EDWARD ISLAND

	GAS & DIESEL	HEATING OIL	GENERAT. FUEL (1)	TOTAL PETROL.	ELECTR.	BIOMASS	COAL	TOTAL
	GIGAWATT-HOURS							
1965	2,485	1,580	597	4,642	137	312	85	5,176
1966	2,478	1,428	685	4,591	159	286	85	5,121
1967	2,495	1,702	773	4,970	182	265	85	5,502
1968	2,520	1,930	841	5,291	199	239	85	5,814
1969	2,517	1,878	916	5,311	218	244	85	5,858
1970	2,561	2,182	1,043	5,786	250	203	85	6,324
1971	2,573	2,565	1,135	6,273	274	213	85	6,845
1972	2,564	2,698	1,266	6,528	307	182	85	7,102
1973	2,660	2,599	1,408	6,667	344	187	85	7,283
1974	2,661	2,428	1,562	6,651	383	192	85	7,311
1975	2,610	2,186	1,706	6,502	420	249	85	7,256
1976	2,431	2,270	1,832	6,533	452	291	85	7,361
1977	2,760	2,223	1,571	6,554	452	302	85	7,393
1978	2,595	2,236	883	5,714	479	317	85	6,595
1979	2,771	2,359	441	5,571	512	385	85	6,553
1980	2,602	2,199	556	5,357	515	406	85	6,363
1981	2,369	1,848	206	4,423	514	421	85	5,443
1982	2,257	1,690	220	4,167	511	478	85	5,241
1983	2,236	1,440	111	3,787	531	563	85	4,966
1984	2,323	1,586	38	3,947	560	594	80	5,181
1985	2,175	1,573	81	3,829	579	620	75	5,103
1986	2,208	1,654	111	3,973	608	668	75	5,324
1987	2,269	1,769	291	4,329	654	739	75	5,797
1988	2,406	1,904	443	4,753	696	680	75	6,204
1989	2,593	1,972	497	5,062	728	575	73	6,438

SOURCE:
Statistics Canada 57-003, 45-004
Maritime Electric Company, Ltd. Annual Reports
Town of Summerside
P.E.I. Energy Corporation
P.E.I. Department of Energy and Forestry Estimates

(1) Generating fuel is used to produce electricity.

TABLE 2
ENERGY CONSUMPTION BY SECTOR OF USE
PRINCE EDWARD ISLAND

	TRANSP.	RESID.	COMM. & INSTIT.	INDUST.	AGRIC.	TOTAL END USE	GENER. FUEL	NON ENERGY
	GIGAWATT–HOURS							
1965	2,056	1,282	399	100	242	4,579	597	302
1966	2,075	1,044	955	104	258	4,436	685	328
1967	2,101	1,346	915	112	255	4,729	773	331
1968	2,138	1,555	921	119	240	4,973	841	349
1969	2,134	1,477	965	112	254	4,942	916	329
1970	2,201	1,753	910	166	251	5,281	1,043	349
1971	2,219	2,138	888	217	248	5,710	1,135	322
1972	2,205	2,325	844	220	242	5,836	1,266	379
1973	2,350	2,111	897	272	245	5,875	1,408	454
1974	2,352	1,976	895	266	260	5,749	1,562	413
1975	2,276	1,814	939	250	271	5,550	1,706	456
1976	2,004	1,999	970	291	265	5,529	1,832	383
1977	2,501	1,861	936	262	262	5,822	1,571	419
1978	2,312	1,954	936	262	248	5,712	883	359
1979	2,496	2,012	1,040	305	259	6,112	441	153
1980	2,272	1,943	1,020	305	267	5,807	556	58
1981	1,918	1,741	1,085	229	264	5,237	206	268
1982	1,704	1,685	1,201	170	261	5,021	220	141
1983	1,705	1,502	1,129	164	355	4,855	111	160
1984	1,754	1,661	1,250	196	282	5,143	38	135
1985	1,691	1,724	1,084	224	299	5,022	81	159
1986	1,694	1,847	1,128	240	304	5,213	111	317
1987	1,718	2,022	1,251	259	256	5,506	291	505
1988	1,814	2,037	1,355	217	338	5,761	443	450
1989	1,881	1,901	1,486	294	379	5,941	497	222

SOURCE:
Statistics Canada 57–003
P.E.I. Department of Energy and Forestry
Estimated for years prior to 1978

TABLE 3
SOURCES OF CRUDE OIL
ATLANTIC CANADA REFINERIES

		IMPORTED							
	DOMESTIC	SAUDI ARABIA	VENE-ZUELA	IRAN & IRAQ	NIGERIA	NORWAY & U.K.	MEXICO	OTHER	TOTAL
	MEGALITRES								
1965	1	886	3,606	1,500	(1)	(1)	(1)	13	6,006
1966	1	835	3,121	1,793	(1)	(1)	(1)	636	6,386
1967	1	728	3,441	919	56	(1)	(1)	1,235	6,380
1968	–	718	4,984	632	–	(1)	(1)	38	6,352
1969	–	984	5,001	683	–	(1)	(1)	578	7,246
1970	–	909	5,727	1,304	–	(1)	(1)	37	7,977
1971	–	1,702	5,785	2,888	–	(1)	(1)	1,276	11,651
1972	–	3,269	5,270	4,039	8	(1)	(1)	2,816	15,452
1973	37	2,696	6,212	5,908	–	(1)	(1)	2,679	17,532
1974	610	4,020	5,789	7,550	–	(1)	(1)	2,849	20,818
1975	6	5,122	4,722	6,892	47	(1)	(1)	1,577	18,366
1976	–	4,831	5,178	4,605	80	(1)	(1)	129	14,823
1977	–	6,967	5,481	3,999	–	(1)	(1)	435	16,882
1978	–	5,954	5,658	3,982	–	(1)	(1)	314	15,908
1979	–	9,395	5,906	1,955	–	(1)	(1)	1,399	18,655
1980	61	10,074	4,053	872	152	(1)	–	1,291	16,503
1981	–	6,968	3,109	–	–	(1)	802	1,039	11,918
1982	1,370	2,042	2,220	152	152	(1)	1,269	497	7,702
1983	2,515	359	975	624	847	(1)	1,569	1,372	8,261
1984	2,550	–	1,333	–	806	(1)	1,343	2,160	8,192
1985	894	–	1,296	508	554	(1)	738	4,644	8,634
1986	117	1,429	1,457	910	1,907	(1)	167	4,715	10,702
1987	131	699	1,355	1,913	1,744	5,670	–	1,362	12,874
1988	226	1,908	1,141	721	2,341	8,571	–	1,281	16,189
1989	9	2,209	1,294	1,786	3,373	7,884	269	162	16,986

SOURCE:
Statistics Canada 45-004, 45-204

(1) Receipts, if any, reported under other.

TABLE 4
SALES OF REFINED PETROLEUM PRODUCTS
PRINCE EDWARD ISLAND

	GASOLINE	DIESEL	KEROS.	LFO	HFO	AVIATION FUEL	PROPANE	TOTAL ENERGY USE	NON-ENERGY
	KILOLITRES								
1985	172,050	86,285	47,544	83,159	67,529	10,350	n/a	446,917	13,780
1986	172,902	86,809	45,787	79,285	67,263	10,281	n/a	442,307	15,828
1987	173,484	87,478	51,726	82,159	81,128	10,748	n/a	478,733	16,039
1988	174,518	88,558	52,881	108,591	90,507	11,090	n/a	508,123	17,437
1989	175,472	87,958	49,362	105,950	97,868	10,458	n/a	507,156	15,881
1970	178,539	70,149	55,356	121,302	115,485	11,427	n/a	550,338	17,378
1971	176,905	70,349	54,282	130,436	148,826	12,286	n/a	593,166	15,383
1972	177,979	69,920	52,309	146,197	158,910	10,841	n/a	615,956	19,683
1973	183,382	71,966	48,596	150,647	163,677	12,962	n/a	629,252	25,457
1974	182,111	71,510	47,003	149,693	162,724	14,931	n/a	627,972	22,286
1975	179,718	74,218	41,379	144,831	159,577	8,828	6,667	615,218	25,642
1976	182,358	80,983	40,047	154,165	169,726	13,743	7,491	618,513	20,016
1977	186,309	78,378	34,158	150,028	151,450	13,296	8,908	622,554	22,754
1978	193,152	57,947	31,334	153,794	94,878	12,171	4,934	548,208	29,484
1979	203,984	61,857	26,589	146,640	76,070	15,377	8,362	538,883	12,787
1980	196,035	57,502	24,367	152,902	67,487	10,425	9,913	518,571	18,558
1981	178,548	52,722	18,962	132,182	31,116	9,041	10,355	432,626	9,518
1982	168,219	50,773	16,851	122,529	29,071	9,909	10,894	408,048	2,490
1983	188,759	49,829	13,508	105,084	18,889	8,095	11,442	373,696	2,311
1984	189,196	58,319	13,894	118,669	8,932	9,541	13,462	390,013	2,148
1985	185,361	48,042	13,522	122,615	8,695	7,219	12,835	378,089	2,017
1986	187,295	48,454	14,166	129,528	9,672	8,290	15,170	382,584	12,695
1987	170,837	51,078	12,445	137,354	29,580	8,125	14,907	424,306	14,484
1988	180,062	56,084	12,823	151,138	41,344	7,523	14,520	483,594	22,398
1989	182,214	71,833	12,878	184,182	41,909	7,107	11,246	491,369	17,945

SOURCE:
Statistics Canada 45-004
Estimated from Statistics Canada 45-208 data for Maritime Provinces prior to 1972.

TABLE 5
PETROLEUM PRICES
PRINCE EDWARD ISLAND

	CRUDE OIL			REGULAR LEADED		REG. UNLEADED	
	$US/BBL (1)	C CAN/L (2)	FUEL OIL	FULL SERV.	SELF SERV.	FULL SERV.	SELF SERV.
				CENTS PER LITRE			
1965	n/a	n/a	n/a	n/a	–	–	–
1966	n/a	n/a	n/a	n/a	–	–	–
1967	n/a	n/a	n/a	n/a	–	–	–
1968	n/a	n/a	n/a	n/a	–	–	–
1969	n/a	n/a	n/a	n/a	–	–	–
1970	1.81	n/a	n/a	n/a	–	–	–
1971	2.35	n/a	n/a	n/a	–	–	–
1972	2.55	n/a	n/a	n/a	–	–	–
1973	3.54	n/a	n/a	n/a	–	–	–
1974	12.98	n/a	n/a	15.3	–	–	–
1975	14.03	n/a	n/a	17.9	–	–	–
1976	15.44	n/a	n/a	20.1	–	–	–
1977	16.63	n/a	n/a	21.7	–	–	–
1978	17.04	n/a	n/a	23.3	–	24.1	–
1979	23.15	8.86	15.0	24.9	–	25.8	–
1980	38.46	11.29	18.1	29.2	–	30.6	–
1981	36.48	17.21	25.6	40.4	–	42.2	–
1982	34.29	20.42	31.1	48.1	–	50.1	–
1983	30.96	22.10	33.7	52.3	–	54.4	–
1984	29.61	23.85	36.0	55.2	–	57.2	–
1985	28.12	23.54	36.6	57.6	56.2	59.8	58.6
1986	15.32	12.98	33.1	51.5	49.9	53.6	52.3
1987	19.18	15.29	32.3	51.6	50.3	53.7	52.5
1988	15.97	11.73	31.6	50.6	49.2	52.6	51.5
1989	19.66	13.93	29.9	51.8	50.7	52.7	51.5

SOURCE:
Statistics Canada 62-001

(1) National Energy Board, West Texas Intermediate at Chicago prior to 1981. Energy, Mines and Resources, West Texas Intermediate at Cushing, for subsequent years.

(2) Energy, Mines and Resources, Canadian Par at Edmonton.

TABLE 6
INSTALLED GENERATING CAPACITY AT END OF YEAR
PRINCE EDWARD ISLAND UTILITIES

	STEAM	DALHOUS. N.B.	GAS TURBINE	INTERNAL COMB.	HYDRO	TOTAL	QUEBEC PURCHASE	SYSTEM PEAK (1)
				KILOWATTS (NET)				
1965	46,800	–	–	6,740	155	53,695	–	31,000
1966	46,800	–	–	6,740	–	53,540	–	35,000
1967	46,800	–	–	6,740	–	53,540	–	40,000
1968	65,400	–	–	6,740	–	72,140	–	46,000
1969	65,400	–	–	6,740	–	72,140	–	50,000
1970	65,400	–	–	6,740	–	72,140	–	55,000
1971	65,400	–	14,100	6,740	–	86,240	–	60,000
1972	65,400	–	29,100	6,740	–	100,240	–	63,000
1973	65,400	–	38,700	6,740	–	110,840	–	66,000
1974	65,400	–	38,700	6,740	–	110,840	–	79,000
1975	65,400	–	38,700	6,740	–	110,840	–	85,000
1976	65,400	–	38,700	6,740	–	110,840	–	92,000
1977	65,400	–	38,700	6,740	–	110,840	–	95,000
1978	65,400	–	38,700	6,740	–	110,840	–	98,000
1979	65,400	–	38,700	6,740	–	110,840	–	98,000
1980	65,400	–	38,700	6,740	–	110,840	–	104,000
1981	65,400	4,750	38,700	6,740	–	115,590	–	95,000
1982	65,400	9,500	38,700	6,740	–	120,340	–	100,000
1983	65,400	19,000	38,700	10,840	–	133,940	–	100,000
1984	65,400	19,000	38,700	10,840	–	133,940	–	103,000
1985	65,400	19,000	38,700	10,840	–	133,940	–	107,000
1986	65,400	19,000	38,700	10,840	–	133,940	–	109,000
1987	65,400	19,000	38,700	10,840	–	133,940	–	119,000
1988	65,400	19,000	38,700	10,840	–	133,940	5,000	127,000
1989	65,400	19,000	38,700	10,840	–	133,940	15,000	133,000

SOURCE:
Maritime Electric Company Limited
Town of Summerside Electric Department
Statistics Canada 57-202

(1) Total peak including interuptible customers.

TABLE 7
SOURCES OF ELECTRICITY
PRINCE EDWARD ISLAND UTILITIES

	ON-ISLAND GEN.	DAL-HOUSIE	N.B. ECONOMY ENERGY	C.M.P. TYPE ENERGY	OTHER FIRM POWER	TOTAL
	MEGAWATT-HOURS					
1966	136,900	–	–	–	–	136,900
1968	158,300	–	–	–	–	158,300
1967	181,800	–	–	–	–	181,800
1968	199,000	–	–	–	–	199,000
1969	218,000	–	–	–	–	218,000
1970	250,400	–	–	–	–	250,400
1971	274,000	–	–	–	–	274,000
1972	307,300	–	–	–	–	307,300
1973	343,500	–	–	–	–	343,500
1974	382,800	–	–	–	–	382,800
1975	419,800	–	–	–	–	419,800
1976	451,800	–	–	–	–	451,800
1977	385,200	–	67,000	–	–	452,200
1978	209,700	–	268,800	–	–	478,500
1979	151,100	–	381,200	–	–	912,300
1980	129,800	–	387,890	–	–	514,800
1981	30,800	16,100	467,500	–	–	514,400
1982	34,800	83,300	392,700	–	–	510,800
1983	11,800	133,900	385,500	–	–	531,000
1984	8,800	140,800	412,800	–	–	560,200
1985	2,000	143,800	404,400	29,100	–	579,100
1986	12,100	139,100	266,400	184,200	26,000	807,800
1987	83,300	107,800	308,300	187,800	7,100	853,900
1988	90,800	132,800	295,200	157,800	20,000	696,200
1989	105,300	129,900	132,200	154,200	207,100	728,300

SOURCE:
Maritime Electric Company, Ltd.
Town of Summerside
Statistics Canada 57-202 Prior to 1972, 57-204

TABLE 8
SALES OF ELECTRICITY
PRINCE EDWARD ISLAND UTILITIES

	NO. CUSTOMERS		GIGAWATT-HOURS			PER CUSTOMER	
	RES.	OTHER	RES.	OTHER	TOTAL	RES.	OTHER
						kWh	kWh
1965	22,899	3,825	54.9	65.0	119.9	2,397	16,993
1966	24,325	4,008	62.2	76.3	138.5	2,557	19,037
1967	24,142	4,190	72.0	87.6	159.6	2,982	20,907
1968	24,766	4,195	81.8	95.5	177.3	3,303	22,765
1969	25,559	4,509	91.1	104.5	195.6	3,564	23,176
1970	26,625	4,686	106.0	120.2	226.2	3,981	25,651
1971	27,620	4,976	118.7	126.8	245.5	4,298	25,482
1972	28,703	5,175	136.4	138.4	274.8	4,752	26,744
1973	30,215	5,671	156.0	155.1	311.1	5,163	27,350
1974	31,500	6,000	172.9	169.9	342.8	5,489	28,317
1975	32,900	6,400	192.9	185.3	378.2	5,863	28,953
1976	33,600	6,600	207.8	191.9	399.7	6,185	29,076
1977	35,400	6,800	211.7	193.5	405.2	5,980	28,456
1978	36,400	7,600	207.5	216.9	424.4	5,701	28,539
1979	37,500	8,200	218.2	235.0	453.2	5,819	28,659
1980	38,200	8,500	222.0	233.6	455.6	5,812	27,482
1981	38,100	8,500	222.9	235.4	458.3	5,850	27,694
1982	38,700	8,200	217.9	231.9	449.8	5,630	28,280
1983	39,900	7,900	230.1	236.9	467.0	5,767	29,987
1984	40,800	8,100	240.5	249.5	490.0	5,895	30,802
1985	41,800	8,200	248.9	262.3	511.2	5,955	31,988
1986	42,700	8,500	262.7	272.2	534.9	6,152	32,024
1987	43,600	9,000	280.0	296.9	576.9	6,422	32,989
1988	44,500	9,400	297.7	318.2	615.9	6,690	33,851
1989	45,400	9,800	309.8	341.9	651.7	6,824	34,888

SOURCE:

Maritime Electric Company, Ltd. Annual Reports
Town of Summerside
Statistics Canada 57-202 Prior to 1974

TABLE 9
ELECTRICITY PRICES
PRINCE EDWARD ISLAND UTILITIES

	CITY RESIDENT.	SMALL GEN. SERV.	LARGE GEN. SERV.	INDUST./ TR.VOLT.
kW		40	100	1000
kWh/mth	500	10,000	25,000	400,000
		c/kWh		
1965	–	–	–	–
1966	–	–	–	–
1967	–	–	–	–
1968	–	–	–	–
1969	–	–	–	–
1970	–	–	–	–
1971	2.6	–	–	–
1972	2.2	–	–	–
1973	2.7	–	–	–
1974	3.6	–	–	–
1975	4.4	–	–	–
1976	5.0	5.7	5.4	–
1977	5.9	6.6	6.2	–
1978	6.3	7.1	6.7	–
1979	7.0	7.8	7.4	–
1980	7.9	8.7	8.3	–
1981	9.6	10.6	10.2	8.4
1982	11.6	12.9	12.4	10.0
1983	11.6	12.8	12.4	10.0
1984	12.2	13.4	12.9	10.6
1985	11.9	13.0	12.6	10.4
1986	9.4	10.6	9.2	7.0
1987	9.1	10.3	8.5	5.9
1988	10.0	11.3	10.5	8.2
1989	9.7	11.0	10.1	5.9

SOURCE:
P.E.I. Department of Energy and Forestry

TABLE 10
SOURCES OF BIOMASS
PRINCE EDWARD ISLAND

	CORDWOOD		WOOD CHIPS		MUNICIPAL WASTE		TOTAL
	ODT	MWH	ODT	MWH	TONNES	MWH	MWH
1965	80,000	312,000	–	–	–	–	312,000
1966	55,000	286,000	–	–	–	–	286,000
1967	51,000	265,200	–	–	–	–	265,200
1968	46,000	239,200	–	–	–	–	239,200
1969	47,000	244,400	–	–	–	–	244,400
1970	39,000	202,800	–	–	–	–	202,800
1971	41,000	213,200	–	–	–	–	213,200
1972	35,000	182,000	–	–	–	–	182,000
1973	36,000	187,200	–	–	–	–	187,200
1974	37,000	192,400	–	–	–	–	192,400
1975	48,000	249,600	–	–	–	–	249,600
1976	56,000	291,200	–	–	–	–	291,200
1977	58,000	301,600	–	–	–	–	301,600
1978	61,000	317,200	–	–	–	–	317,200
1979	74,000	384,800	–	–	–	–	384,800
1980	78,000	405,600	–	–	–	–	405,600
1981	81,000	421,200	–	–	–	–	421,200
1982	92,000	478,400	–	–	–	–	478,400
1983	103,000	535,600	1,000	5,200	24,000	22,100	562,900
1984	109,000	566,800	1,000	5,200	23,200	21,600	593,600
1985	114,000	592,800	1,000	5,200	26,800	21,600	619,600
1986	120,000	624,000	4,000	20,800	28,000	22,700	667,500
1987	129,000	670,800	9,000	46,800	30,700	21,200	738,800
1988	110,000	572,000	16,000	83,200	30,000	24,400	679,600
1989	90,000	468,000	16,000	83,200	32,000	24,200	575,400

SOURCE:
P.E.I. Department of Energy and Forestry
P.E.I. Energy Corporation
Statistics Canada 25-202 for estimates prior to 1979.

TABLE 11
DELIVERED BIOMASS PRICES
PRINCE EDWARD ISLAND

	CORDWOOD (1)	FUEL CHIPS (2)
	$/ODT	$/ODT
1965	n/a	-
1966	n/a	-
1967	n/a	-
1968	n/a	-
1969	n/a	-
1970	n/a	-
1971	n/a	-
1972	n/a	-
1973	n/a	-
1974	n/a	-
1975	n/a	-
1976	n/a	-
1977	n/a	-
1978	n/a	-
1979	48.00	-
1980	52.00	-
1981	58.00	-
1982	65.00	-
1983	69.00	58.00
1984	70.00	62.00
1985	72.00	60.00
1986	75.00	53.00
1987	78.00	49.00
1988	80.00	51.00
1989	80.00	56.00

SOURCE:
P.E.I. Department of Energy and Forestry
P.E.I. Energy Corporation

(1) Average price includes 8 ft, blocked and split wood.
(2) Based on 45% moisture content.

TABLE 12
POPULATION AND HOUSEHOLDS
PRINCE EDWARD ISLAND

	POPULATION				HOUSEHOLDS			
	P.E.I.	%	CANADA	%	SINGLE	MULTIPLE	OTHER	TOTAL
			(000)					
1965	109,000	0.0	19,644	1.8	19,766	4,941	195	24,902
1966	108,500	-0.5	20,015	1.9	19,927	5,162	271	25,360
1967	109,000	0.5	20,378	1.8	20,122	5,379	345	25,846
1968	110,000	0.9	20,701	1.6	20,275	5,660	442	26,377
1969	111,000	0.9	21,001	1.4	20,441	5,821	497	26,759
1970	110,000	-0.9	21,297	1.4	20,640	6,047	574	27,261
1971	111,600	1.5	21,583	1.3	20,905	6,240	640	27,785
1972	112,600	0.9	21,801	1.0	21,433	6,395	838	28,666
1973	114,000	1.2	22,043	1.1	21,997	6,481	948	29,426
1974	115,200	1.1	22,364	1.5	22,896	6,694	1,220	30,810
1975	117,100	1.6	22,697	1.5	23,772	6,819	1,379	31,970
1976	118,200	0.9	22,993	1.3	24,315	7,000	1,610	32,925
1977	119,300	0.9	23,273	1.2	25,249	7,070	1,649	33,968
1978	121,000	1.4	23,517	1.0	25,872	7,112	1,672	34,656
1979	122,000	0.8	23,747	1.0	26,750	7,243	1,745	35,738
1980	122,800	0.7	24,043	1.2	27,690	7,422	1,843	36,955
1981	122,500	-0.2	24,342	1.2	28,110	7,605	1,945	37,660
1982	122,400	-0.1	24,583	1.0	28,498	7,636	1,937	38,071
1983	123,700	1.1	24,787	0.8	28,623	7,636	1,937	38,196
1984	125,100	1.1	24,978	0.8	29,054	8,038	1,829	38,921
1985	126,000	0.7	25,165	0.7	29,502	8,477	1,711	39,690
1986	126,600	0.5	25,353	0.7	30,105	9,020	1,565	40,690
1987	127,300	0.6	25,617	1.0	30,664	9,207	1,502	41,373
1988	128,800	1.2	25,912	1.2	31,227	9,565	1,442	42,234
1989	130,200	1.1	26,219	1.2	31,592	9,852	1,385	42,829

SOURCE:

Statistics Canada 91-210, 94-103

Statistics Canada Census of Canada, 1961, 1966, 1971, 1976,1981 & 1986.

Households between census years estimated from housing completions reported in Statistics Canada, 64-002

TABLE 13
MOTOR VEHICLE REGISTRATIONS
PRINCE EDWARD ISLAND

	CARS	TRUCKS	BUSES	MOTOR-CYCLES	OTHER (1)	TOTAL
1965	25,796	7,843	–	200	2,369	36,208
1966	26,689	8,140	–	480	2,483	37,772
1967	27,634	8,299	177	631	2,715	39,456
1968	27,695	8,398	199	679	3,015	39,986
1969	29,229	8,544	223	652	3,414	42,062
1970	30,376	8,691	249	693	3,814	43,823
1971	32,251	9,200	286	703	4,086	46,526
1972	34,231	9,796	309	806	4,328	49,470
1973	37,014	10,370	348	1,075	4,761	53,568
1974	39,430	11,685	370	1,442	5,263	58,190
1975	40,661	12,721	374	1,662	7,774	63,192
1976	42,015	13,700	394	1,390	6,899	64,398
1977	44,106	15,044	386	1,527	6,780	67,843
1978	46,413	16,887	407	1,677	7,407	72,791
1979	47,632	18,498	403	1,734	7,629	75,896
1980	47,608	18,992	412	1,644	7,657	76,313
1981	48,564	17,266	406	1,801	8,032	76,069
1982	48,177	17,267	402	2,011	7,764	75,621
1983	50,521	17,975	392	2,197	7,660	78,745
1984	52,538	18,904	390	2,153	6,383	80,368
1985	54,533	19,289	392	2,141	2,293	78,648
1986	56,224	20,387	411	2,003	1,998	81,023
1987	60,169	19,159	425	2,119	1,734	83,606
1988	61,983	20,321	407	2,053	2,118	86,882
1989	63,947	20,048	399	1,774	5,852	92,020

SOURCE:
P.E.I. Highway Safety Division

(1) Other includes special service vehicles, off-road vehicles, trailers (trailers registered every 5 years after 1984) and miscellaneous.

TABLE 14
CONSUMER PRICE INDEX
ANNUAL AVERAGE OF MAJOR COMPONENTS

	ALL ITEMS				ENERGY			
	CANADA		CH'TOWN/S'SIDE		CANADA		CH'TOWN/S'SIDE	
	INDEX	%	INDEX	%	INDEX	%	INDEX	%
1965	34.0	2.4	n/a	n/a	n/a	n/a	n/a	n/a
1966	35.2	3.5	n/a	n/a	n/a	n/a	n/a	n/a
1967	36.5	3.7	n/a	n/a	n/a	n/a	n/a	n/a
1968	38.0	4.1	n/a	n/a	n/a	n/a	n/a	n/a
1969	39.7	4.5	n/a	n/a	n/a	n/a	n/a	n/a
1970	41.0	3.3	n/a	n/a	n/a	n/a	n/a	n/a
1971	42.2	2.9	n/a	n/a	29.1	n/a	n/a	n/a
1972	44.2	4.7	n/a	n/a	29.9	2.7	n/a	n/a
1973	47.6	7.7	n/a	n/a	32.6	9.0	n/a	n/a
1974	52.8	10.9	52.5	n/a	37.6	15.3	35.0	n/a
1975	58.5	10.8	58.4	11.2	42.7	13.6	40.2	14.9
1976	62.9	7.5	63.0	7.9	49.2	15.2	46.6	15.9
1977	67.9	7.9	68.0	7.9	55.2	12.2	51.9	11.4
1978	73.9	8.8	73.5	8.1	60.4	9.4	57.1	10.0
1979	80.7	9.2	79.8	8.6	66.3	9.8	62.9	10.2
1980	88.9	10.2	88.1	10.4	76.9	16.0	74.0	17.6
1981	100.0	12.5	100.0	13.5	100.0	30.0	100.0	35.1
1982	110.8	10.8	109.5	9.5	119.8	19.8	120.1	20.1
1983	117.2	5.8	115.1	5.1	129.1	7.8	127.3	6.0
1984	122.3	4.4	120.0	4.3	136.3	5.6	135.6	6.5
1985	127.2	4.0	124.5	3.8	143.9	5.6	141.0	4.0
1986	132.4	4.1	127.0	2.0	133.6	-7.2	121.1	-14.1
1987	138.2	4.4	131.5	3.5	137.1	2.6	119.3	-1.5
1988	143.8	4.1	136.4	3.7	137.9	0.6	119.8	0.4
1989	151.0	5.0	141.6	3.8	142.7	3.5	116.8	-2.5

SOURCE:
Statistics Canada 62-001

TABLE 15
HEATING DEGREE DAYS (18.0 C)
PRINCE EDWARD ISLAND

	CHARLOTTETOWN	SUMMERSIDE
1965	5,011.8	4,870.2
1966	4,335.1	4,269.1
1967	4,896.7	4,813.5
1968	4,812.2	4,694.5
1969	4,392.5	4,315.2
1970	4,810.8	4,755.1
1971	4,733.8	4,634.6
1972	5,157.9	5,119.3
1973	4,616.4	4,496.7
1974	4,910.6	4,807.7
1975	4,772.0	4,690.6
1976	4,768.0	4,691.3
1977	4,654.1	4,591.5
1978	4,918.0	4,852.6
1979	4,360.7	4,297.3
1980	4,960.6	4,843.8
1981	4,239.5	4,220.1
1982	4,767.8	4,686.6
1983	4,255.8	4,295.4
1984	4,557.0	4,554.4
1985	5,188.2	4,820.1
1986	4,941.1	4,855.4
1987	4,889.5	4,720.3
1988	4,809.3	4,737.3
1989	4,974.1	4,919.1
Long–term Average	4,688.6	4,577.6

SOURCE:
Environment Canada, Atmospheric Environment Service

TABLE 16

ENERGY CONVERSION FACTORS

	Btu/Bbl (000)		MWH/kL
CRUDE OIL	5,803		10.700
HEAVY FUEL OIL	6,287		11.600
LIGHT FUEL OIL	5,828		10.750
DIESEL OIL	5,828		10.750
KEROSENE	5,677		10.500
JET FUEL	5,415		10.000
MOTOR GASOLINE	5,222		9.625
AVIATION GASOLINE	5,050		9.300
L.P.G. *	4,095		7.550
PROPANE *	3,997		7.365
BUTANE *	4,442		8.188
ETHANE	3,447		6.350
	Btu/cu.ft.		**MWH/kL**
NATURAL GAS	1035		0.0107
	Btu/ton (000)		**MWH/tonne**
ANTHRACITE COAL	25,400		8.200
BITUMINOUS COAL	25,200		8.135
PEAT (air–dried)	12,600		4.070
CHARCOAL	24,800		8.010
	Btu/MWh (000)		**MWhth/MWhel**
ELECTRICITY (end–user)	3,412	GJ/MWh	1.00
ELECTRICITY (generation)	11,080	GJ/MWh	3.25

TABLE 17

OTHER CONVERSION FACTORS

1 barrel	=	35	Imperial gallons
	=	158.91	litres
1 cubic metre	=	35.315	cubic feet
1 metric tonne	=	1.1023	tons
	=	2204.6	pounds
1 megawatt–hour	=	3.6	gigajoules
	=	3.41214	million Btu
	=	859,845	kilocalories
1 gigajoule	=	0.2778	megawatt–hours
	=	947,816	Btu
	=	238,846	kilocalories